Metricon Clear Flex 30 Ratios Use Guide

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# Before Using Metricon For the First Time

1. Read safety information. Particularly note laser classes and the requirement for safety glasses. Also, note the beginning section outlining what should never be done with the Metricon
2. Read “Getting Started” Metrcion Manual 1-1 and follow the recommended reading for all users. Also, read any sections outlined in “Getting Started” that pertain to your specific use case

# Startup

1. Log in to the computer
2. Ensure the cover is over the Metricon and all lasers are blocked
3. Power everything on
   1. Turn on the power strip
   2. Plug in the two lasers that connect to the power strip
   3. Ensure both the Metricon boxes are powered on
   4. Turn on the visible (633 nm) laser with the key on the black box at the back
4. Turn on pressure
   1. Ensure coupler switch is off (left side switch up)
   2. Open wall pressure all the way
   3. Use the regulator on the right side to set pressure to 20 PSI (**NEVER INCREASE PRESSURE ON THE METRICON ABOVE 55 PSI**)
   4. Put something soft like paper between the prism and the coupler and test

# Measurements

1. Launch MetriconMCU (1.81.199) from the USB
2. In the Measurement Parameters menu make the following changes as needed
   1. Meas. Type: Bulk/substrate
   2. Wavelength: 632.8
   3. Prism Code: Same as shown on prism (6586.6)
   4. Step Size: Half (Set before setting Scan Start and Scan Stop)
   5. Set Scan Start and Stop from table

|  |  |  |
| --- | --- | --- |
|  | Scan Start | Scan Stop |
| Silicone | -2800 | -3650 |
| Urethane | -1800 | -2900 |

Feel free to change scan start and stop as you get a feel for what range our samples indices are within. Just always ensure the knee is very visible for whatever range you choose.  
  
This table is derived from the “Start and Stop Mins and Maxs.xlsx” file

* 1. Repetitions: 5

1. Click “OK”
2. Unblock the visible (633 nm) laser
3. Check to ensure the laser hits the upper right of the prism
4. Autoref and ensure the two peaks are visible on the output
5. Spin manual movement knob or click “Man. Meas.) and click “Goto” and type “0”
6. Block laser 633 laser and ensure reader shows zero signal with offset knob set fully clockwise
7. Unblock laser 633 laser and adjust gain to read 0.8
8. Clean prism face
9. Load a sample
10. Click “Measure”
11. Check final graph to ensure a good drop plateau and dropoff (program should warn you if there isn’t one found)
12. Unload and reload sample in a new location
13. Repeat steps 11 through 13 two more times for a total of three measurement locations (you can leave the last location the same for the next laser wavelength)
14. Switch laser on program to 972.3
15. Block 633 laser
16. Unblock 972 laser
17. Repeat steps 11 through 14 for three more measurement locations at 972.3 wavelength
18. Switch laser on program to 403.2
19. Block 972 laser
20. Unblock 403 laser
21. Turn gain up all the way
22. Repeat steps 11 through 14 for three more measurement locations at 403.2 wavelength
23. Under Tools select “Measurement Statistics”
24. Ensure all 45 measurements are present and look for outliers
25. Click “Export”
    1. Select Comma separation
    2. Select File destination
    3. Uncheck “only include selected records”
    4. Browse filename to put the file onto a separate USB with naming convention:   
         
       YYYY-MM-DD\_mm-dd\_10-R  
         
       In which YYYY is year, MM is month, DD is day, mm is the batch creation month, dd is the batch creation day, and R is the ratio of So-Flex II in the sample tested.  
         
       Example 2015-01-23\_01-17\_10-5 was tested on January 23rd of 2015, created on January 17th, and is a 10:5 ratio of Clear Flex Part B to So-Flex II
    5. Click “Save”
26. Ensure File saved
27. Under “Edit” select “Clear ALL meas from memory”
28. Block 403 laser
29. Unload sample
30. Switch laser on program to 632.8
31. Repeat steps 6 through 28 for next sample ratio

# Shutdown

1. Turn off the visible (633 nm) laser with the key on the black box at the back
2. Close Metricon program
3. **TURN OFF THE POWER STRIP**
4. **UNPLUG THE TWO POWER STRIP LASERS**
5. Block all lasers
6. **UNLOAD ANY SAMPLE**
7. Cover Metricon
8. Turn off the air to the Metricon
9. Eject and remove Metricon USB (Store in accessories box)
10. Log out of computer